Gok, R., Turkelli, N., Sandvol, E., Seber, D., and Barazangi, M., *Regional wave propagation in Turkey and surrounding regions*. Geophysical Research Letters, 27(3), 2000.

Abstract:

Digital and analog seismic waveform data collected by 34 stations in and around Turkey provided excellent ray coverage for a detailed attenuation study of regional shear waves (Sn and Lg). Over 2000 seismograms within a distance range of 15° were visually inspected and the quality of Sn and Lg phases categorized into three different classes: efficient, inefficient, or not present. Our results show that Sn and Lg propagation is mostly inefficient in western Turkey and the Aegean Sea. Sn is efficient in parts of southwestern Turkey, the western Pontides, and western Greece. Sn is not observed in eastern Turkey and along the Aegean volcanic arc. Lg propagates efficiently in the Arabian plate including paths that cross the Dead Sea fault zone and in northwestern Turkey. Lg does not propagation in northeast Anatolia, across the Lesser Caucasus, and north of the Hellenic arc (Sea of Crete). These results are a major improvement on prior attenuation studies in this region and provide new constraints for proposed tectonic models.

Figure 4. Maps of interpreted zones of efficient, inefficient, and not observed Sn (a) and Lg (b) and correlation with major tectonic units in the region.